CLAIMS

WE CLAIM:

1. An antidote delivery apparatus comprising:

   one or more antidote reservoirs,

   one or more sensors used to monitor and control the delivery of the antidote,

   one or more valves connected to the sensor(s) and drug/antidote reservoir(s),

   an antidote delivery path from the apparatus to the human subject,

   an input signaling the need for a given antidote.

2. The apparatus of claim 1 wherein said apparatus is utilized to deliver antidotes in response to chemical or biological agents including but not limited to one or more or any combination thereof the following:

   anthrax,

   botulism,

   brucellosis,

   cyanide,

   Lewisite,

   mustard gas,

   nerve gas,

   plague,

   Q fever,

   ricin,

sarin,

soman,

Tabun,

VX.

3. The apparatus of claim 1 wherein said apparatus is utilized to deliver antidotes including but not limited to one or more or any combination thereof the following:

atropine,

BAL,

botulism antotoxin,

chloramphenicol,

ciprofloxacin,

doxycyline,

fluoroquinolones,

general antibiotics,

gentamicin,

sodium nitirle,

sodium thiosulfate,

streptomycin,

tetracyclines,

2_PAMC1.

4. The apparatus of claim 1 wherein said apparatus is portable and worn on the person using a method including but not limited to one or more or a combination thereof the following:

   belt,

   strap,

   tape

   in a pocket,

   as part of standard equipment for soldiers or first responders or other social service providers.

5. The apparatus of claim 1 wherein said apparatus utilizes at least one flow sensor wherein said flow sensor is formed using micromachining techniques.

6. The apparatus of claim 5 wherein said flow sensor is a coriolis mass flow sensor.

7. The apparatus of claim 1 wherein said apparatus utilizes micromachined valves.

8. The apparatus of claim 1 wherein said apparatus utilizes micromachined flow sensors and valves, wherein said flow sensors and valves are formed on the same monolithic substrate.

9. The apparatus of claim 1 wherein said apparatus utilizes a drug or antidote reservoir wherein said reservoir is pressurized by one or more or a combination thereof the following:

   elastomeric,

   spring,

spring loaded syringe,

syringe pump stepper motor,

gas pressure,

pump.

10. The apparatus of claim 1 wherein said apparatus utilizes an antidote delivery path wherein said antidote delivery path includes but is not limited to one or more or a combination thereof the following:

intravenous,

intraarterial,

subcutaneous,

transdermal,

intradermal,

intramuscular,

manual injection by the user or medical personnel.

11. The apparatus of claim 1 wherein said apparatus utilizes an input device, wherein said input device initiates the delivery of the antidote.

12. The apparatus of claim 11, wherein said input device is manually activated by the user.

13. The apparatus of claim 12, wherein said input device is manually activated by the user after receiving notification from a central chemical and biological agent detection system.

14. The apparatus of claim 12 wherein said input device is manually activated by the user by means of a keypad.

15. The apparatus of claim 12, wherein said manually activated input device utilizes a coded input to prevent accidental delivery of the antidote.

16. The apparatus of claim 11, wherein said input device is wirelessly activated.

17. The apparatus of claim 16 wherein said input device is wirelessly activated from a central chemical and biological agent detection system.

18. The apparatus of claim 11, wherein said input device is locally activated based on chemical or biological sensors that are incorporated into the apparatus.

19. An antidote delivery apparatus comprising:

one or more antidote reservoirs,

one or more sensors used to monitor and control the delivery of the antidote,

one or more valves connected to the sensor(s) and drug/antidote reservoir(s),

an antidote delivery path from the apparatus to the human subject,

one or more sensors capable of detecting chemical or biological agents.

20. The method of claim 19 wherein said sensors enable the automatic response to a chemical or biological attack without the requirement of human intervention.

21. The method of claim 19 wherein said sensors alert the user and said user enables the response to a chemical or biological attack using an input code.

22. The apparatus of claim 19 wherein said apparatus is utilized to deliver antidotes for chemical or biological agents including but not limited to one or more or any combination thereof the following:

anthrax,

botulism,

brucellosis,

cyanide,

Lewisite,

mustard gas,

nerve gas,

plague,

Q fever,

ricin,

sarin,

soman,

Tabun,

VX.

23. The apparatus of claim 19 wherein said apparatus is utilized to deliver antidotes including but not limited to one or more or any combination thereof the following:

atropine,

BAL,

botulism antotoxin,

chloramphenicol,

ciprofloxacin,

doxycyline,

fluoroquinolones,

general antibiotics,

gentamicin,

sodium nitirle,

sodium thiosulfate,

streptomycin,

tetracyclines,

2_PAMC1.

24. The apparatus of claim 19 wherein said apparatus is portable and worn on the person using a method including but not limited to one or more or a combination thereof the following:

belt,

strap,

tape

in a pocket,

as part of standard equipment for soldiers or first responders or other social service providers.

25. The apparatus of claim 19 wherein said apparatus utilizes at least one flow sensor that is formed using micromachining techniques.

26. The apparatus of claim 25 wherein said micromachined flow sensor is a coriolis mass flow sensor.

27. The apparatus of claim 19 wherein said apparatus utilizes micromachined valves.

28. The apparatus of claim 19 wherein said apparatus utilizes micromachined flow sensors and valves, wherein said flow sensors and valves are formed on the same monolithic substrate.

29. The apparatus of claim 19 wherein said apparatus utilizes a drug or antidote reservoir wherein said reservoir is pressurized by one or more or a combination thereof the following:

elastomeric,

spring,

spring loaded syringe,

syringe pump stepper motor,

gas pressure,

pump.

30. The apparatus in claim 19 wherein said apparatus utilizes an antidote delivery path wherein said antidote delivery path includes but is not limited to one or more or a combination thereof the following:

intravenous,

intraarterial,

subcutaneous,

transdermal,

intradermal,

intramuscular,

manual injection by the user or medical personnel.

31. The apparatus of claim 19 wherein said apparatus utilizes an input device, wherein said input device initiates the delivery of the antidote.

32. The apparatus of claim 1 wherein said apparatus contains devices for monitoring the health of the user.

33. The apparatus of claim 19 wherein said apparatus contains devices for monitoring the health of the user.

34. The apparatus of claim 1 wherein said apparatus contains a method for relaying the health status and position of the user to a central monitoring location.

35. The apparatus of claim 19 wherein said apparatus contains a method for relaying the health status and position of the user to a central monitoring location.

36. The apparatus of claim 1 wherein said apparatus is used for applications including but not limited to one or more or any combination thereof the following:

performance enhancement system,

prolonged performance and functionality system,

survival system,

immediate emergency treatment system

remote emergency treatment system.

37. The apparatus of claim 19 wherein said apparatus is used for applications including but not limited to one or more or any combination thereof the following:

performance enhancement system,

prolonged performance and functionality system,

survival system,

immediate emergency treatment system

remote emergency treatment system.